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Characteristics of Burley Tobacco Farms

Tom Capen

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In this report...Burley tobacco is the second most important kind of tobacco grown in the United States and is an important component in American blend cigarettes that are increasingly popular worldwide. Burley tobacco is grown in eight States, but Kentucky and Tennessee accounted for 86 percent of U.S. production in 1990. The average burley farm plants only about 3 acres in burley tobacco, producing about 6,500 pounds worth just over \$10,000. Farmers typically grow burley in conjunction with other crop or livestock enterprises. This report examines the structure and characteristics of burley tobacco farming in Kentucky and Tennessee using data from the 1989 Farm Costs and Returns Survey and makes comparisons with data from previous years' surveys.

Burley tobacco is an important component in cigarettes, especially the American blend that is increasingly popular worldwide. Burley is the second most important kind of tobacco grown in the United States, contributing 37 percent to total production in 1990, compared with 58 percent for flue-cured, the most widely grown kind. Burley is grown in eight States, although most is produced in Kentucky and Tennessee. In 1990, those two States accounted for 86 percent of U.S. production. The rest was produced in Virginia, Ohio, North Carolina, Indiana, Missouri, and West Virginia, in declining order of quantity (table 1).

Over the 1980's, burley production ranged widely, from 408 million pounds in 1986 to 822 million pounds in 1982. Average production was 567 million pounds. Because of production quotas and allotments, the share of burley produced by each State does not vary significantly from year to year.

This report examines the structure and characteristics of U.S. burley tobacco farms. Burley acreage and quota, land and quota tenure, farm size, complementary crop and livestock enterprises, and operator

characteristics are examined using Farm Costs and Returns Survey data from 1989 and previous surveys.

The USDA Farm Costs and Returns Survey

The farm-level analysis in this report is based on data collected through the Farm Costs and Returns Survey (FCRS), a joint effort of the Economic Research Service (ERS) and the National Agricultural Statistics Service (NASS), both agencies of the U.S. Department of Agriculture (USDA). The survey, conducted in January 1990, collected information on farm operations for calendar year 1989. The FCRS is a probability-based survey. That is, all burley farms in Kentucky and Tennessee had an equal chance of being included in the sample. NASS assigned expansion factors to each observation so representative means, medians, and ratios could be analyzed. All calculations are cumulatively weighted by these expansion factors to

Table 1--Burley production by State, 1990

State	Area Acres	Production 1,000 lbs
Kentucky	185,000	419,950
Tennessee	46,000	94,760
Virginia	11,000	22,605
Ohio	9,700	18,915
North Carolina	8,200	17,999
Indiana	6,400	13,440
Missouri	2,600	5,928
West Virginia	1,700	2,720
Total	270,600	596,317

Source: Crop Production, 1990 Summary, USDA/NASS, Jan. 1991.

give each survey observation a weight representative of its share of the population.

Burley producers were also surveyed by the USDA in 1976 and 1984.¹ This report compares current data with earlier survey results where possible. However, due to differences in survey techniques and methodologies, some statistics are not directly comparable.

Burley farms surveyed in Kentucky and Tennessee provided 365 questionnaires. All farms discussed in this report grew burley tobacco in 1989.

Burley Production in Kentucky and Tennessee

Farms growing burley were analyzed by State and burley acreage category. The three burley acreage categories consist of farms with fewer than 2.1 acres, farms with 2.1 to 6 acres, and farms with more than 6 acres. Categories indicated as "all" refer to the population of burley farms surveyed in the two States and omit farms in other States.

Burley Acreage, Production, and Yield

Burley farms grew 3.2 acres of burley tobacco on average (table 2); median burley area was 1.5 acres. Farms in Kentucky averaged 4.6 acres of burley, while those in Tennessee (where there are more part-time farmers) averaged 1.9 acres. Twenty-five percent of the burley farms grew no more than 0.6 acre of burley, and 25 percent grew more than 3.5 acres.

Sixty-nine percent of all burley farms fell into the smallest burley acreage category, fewer than 2.1 acres. The middle category, 2.1 to 6 acres, accounted for 16 percent, while the largest category, more than 6 acres, accounted for 15 percent of all burley farms (table 3). Differences in size distribution between Kentucky and Tennessee were significant. Fifty-one percent of Kentucky farms were in the smallest category compared with 86 percent for Tennessee. In Kentucky 28 percent and in Tennessee 3 percent were in the largest category.

Burley production quantity showed similar variation. The overall average was 6,537 pounds per farm, and median production was 3,499 pounds. Farms in Ken-

tucky produced over twice as much burley as those in Tennessee because of larger acreages and higher yields (table 2). Farms smaller than 2.1 acres averaged 2,035 pounds of production. Those with 2.1 to 6 acres averaged 8,892 pounds. Farms with more than 6 acres averaged 25,271 pounds (table 4). Overall yields averaged 2,061 pounds per acre. The Kentucky average was 2,211 pounds per acre, and the Tennessee average was 1,711 pounds per acre. The 1989 yields used in this report are calculated from the FCRS, and differ from official USDA yield estimates.

In 1984, burley area averaged 2.3 acres per farm. Since that time, average farm acreage has increased by 92 percent, from 2.4 to 4.6 acres, in Kentucky, and by 36 percent, from 1.4 to 1.9 acres, in Tennessee. The increases are due to rising national burley quotas and consolidation of quotas into larger holdings. Over-

Table 2--Burley tobacco acreage, production, and cropland used by State

Average per farm	Kentucky	Tennessee	All States
<i>Acres</i>			
Acreage harvested:			
1989	4.6	1.9	3.2
1984	2.4	1.4	2.3
<i>Pounds</i>			
Production:			
1989	10,062	3,176	6,537
1984	4,583	2,423	4,260
Sold: ¹			
1989	9,996	3,152	6,493
1984	4,469	2,370	4,155
Stored:			
1989	66	25	45
1984	114	53	105
Effective quota:			
1989	10,926	4,515	7,645
1984	4,611	2,688	4,323
<i>Pounds per acre</i>			
Yield, 1989 ²	2,211	1,711	2,061
<i>Dollars</i>			
Net burley receipts:			
1989	15,588	4,832	10,082
1984	8,208	4,469	7,649
<i>Percent</i>			
Quota under- production, 1989 ³	7	36	22

¹ For results of the 1984 survey of burley tobacco farms, see

Annette Clauson, *Characteristics of Burley Tobacco Farms*, AER-600, U.S. Dept. Agr., Econ. Res. Serv., Oct. 1988.

¹ During 1989-90 marketing season.

² Weighted by acres of burley.

³ Pounds sold divided by farm effective quota times 100.

Source: 1984 and 1989 FCRS.

Table 3--Proportion of burley tobacco farms by burley acreage

Burley acreage	Kentucky	Tennessee	All States
	<i>Percent</i>		
Fewer than 2.1 acres:			
1989	51	86	69
1984	72	96	na
2.1 to 6 acres:			
1989	21	11	16
1984	21	3	na
Greater than 6 acres:			
1989	28	3	15
1984	7	1	na

na = Not available.

Source: 1984 and 1989 FCRS.

all yields rose during 1984-89. Kentucky yields gained 21 percent, but Tennessee yields remained stable. Yield gains were greater in the lower acreage categories.

Burley Labor Use

Burley production is labor intensive, and production methods have changed little in the past decade. Although labor requirements have decreased with the adoption of bales rather than the traditional hands (leaves tied in bundles at the stem end) for marketing, labor is still the major constraint to production. Competition for labor is especially critical for larger operators and those near metro areas. Labor shortages, especially during harvesting, have caused operators to explore switching from informal labor sources to migrant and contract labor arrangements.²

Higher yields and increased production efficiency have reduced labor used per 100 pounds, but labor used per acre increased only slightly. About two-thirds of the burley labor was unpaid, mostly family or exchange labor. Since 1984, the use of custom or contract labor has increased.

² For additional information on labor use in burley tobacco production, see Annette Clauson, "Burley Tobacco Labor Use, Characteristics, and Wages in 1989," *Tobacco Situation and Outlook Report*, TS-212, U.S. Dept. Agr., Econ. Res. Serv., Sept. 1990, pp. 34-38.

Table 4--Burley tobacco acreage, production, and cropland used by burley acreage

Average per farm	Burley acreage		
	Fewer than 2.1 acres	2.1 to 6 acres	Greater than 6 acres
<i>Acreage harvested:</i>			
1989	1.1	4.1	12.2
1984	1.3	3.9	9.8
<i>Pounds</i>			
Production, 1989	2,035	8,892	25,271
Sold, 1989 ¹	2,032	8,843	25,033
Stored, 1989	3	49	238
Effective quota, 1989	2,748	9,802	28,451
<i>Pounds per acre</i>			
Yield, 1989 ²	1,912	2,190	2,077
<i>Dollars</i>			
Net burley receipts:			
1989	3,115	13,189	39,643
1984	4,294	12,472	35,493
<i>Percent</i>			
Quota under-production, 1989 ³	26	11	12

¹ During 1989-90 marketing season.

² Weighted by acres of burley.

³ Pounds sold divided by farm effective quota times 100.

Source: 1984 and 1989 FCRS.

Burley Receipts and Income

Net burley receipts (gross receipts less assessments and warehouse charges) for all farms averaged \$10,082. Kentucky farms averaged \$15,588 and Tennessee farms averaged \$4,832. Burley is the major income source on farms where it is grown. It accounts for only 32 percent of cropland, but contributes 74 percent to farm sales.

Net burley receipts averaged \$7,649 in 1984, compared with \$10,082 in 1989, a 32-percent gain (table 2). Growers in Kentucky accounted for most of this gain; their average increase was 90 percent, compared with 8 percent in Tennessee.

Burley Quota

Burley production is limited by quota levels and statutory restrictions on quota sale, leasing, and rental

arrangements imposed by USDA's tobacco program (app. A). Until 1991, laws governing burley production restricted quota leasing and rental to the county to which it is assigned, making consolidation of large acreages difficult. Beginning with the 1991 crop, however, quotas in Tennessee may be leased or rented across county lines, and quotas in all States may be sold within the county. The upper limit for leasing in all areas has been raised from 15,000 pounds to 30,000 pounds. Otherwise, restrictions on leasing and rental in Kentucky continue unchanged. Movement of production to more efficient areas or away from urbanizing areas is now easier in Tennessee, where underproduction is more common.

The distribution of various quota-holding arrangements varied between the two States (table 5). Farmers in Tennessee were more likely to own all their quota, but half of those in Kentucky rented or leased part of theirs. Fifty-eight percent of those farms with less than 2.1 acres of burley owned all their quota, a much higher proportion than the larger size categories (table 6). Twenty-two percent of the farmers with less than 2.1 acres of burley rented all their quota and the remainder combined ownership and leasing. Of farms with 2.1 to 6 acres, 68 percent combined ownership and rental, and 26 percent owned all their quota. The remainder in this category rented all their quota.

Table 5--Burley tobacco quota-holding arrangements by State

Tenure and year	Kentucky	Tennessee	All States
	<i>Percent</i>		
Own all:			
1989	36	61	48
1984	57	67	58
Own and lease:			
1989	18	25	22
1984	22	18	21
Rent all:			
1989	27	11	19
1984	12	14	13
Own, rent, and lease:			
1989	14	1	7
1984	9	1	8
Own and rent:			
1989	4	1	3
1984	0	0	0
Lease and rent:			
1989	1	1	1
1984	na	na	na
Lease all:			
1989	0	0	0
1984	0	0	0

na = Not available.

Source: 1984 and 1989 FCRS.

Twenty-six percent of all farms with 6 or more acres of burley owned all their quota, and 23 percent in this size category rented all the quota they grew. The remainder combined ownership with renting or leasing arrangements.

Growers leased and transferred in an average of 1,583 pounds of quota and paid an average 29 cents per pound (table 7). Quantity leased and price paid were both higher in Kentucky, at 1,957 pounds and 38 cents per pound, than in Tennessee, at 1,226 pounds and 18 cents per pound. Quota share rented with land averaged 1,627 pounds per farm for all farms.

Effective burley quota per farm averaged 7,645 pounds in both States: 10,926 pounds in Kentucky and 4,515 pounds in Tennessee (table 7). Growers may market 103 percent of their quota without penalty. Conversely, growers may market less than their full quota. The adjustment for over- and undermarketings is subtracted or added to the following year's farm quota, which is the effective quota for that year. Average farm effective quota was up 77 percent from 1984. Without consolidation, the farm-level quota would have reflected the drop in the national effective quota from 697 million pounds to 661 million pounds. At the State level, increases in average farm effective quota were 137 percent in Kentucky and 68 percent in Tennessee. These increases indicate some consolidation of quota since 1984. The rise in average farm effective quota can also be explained, in part, by underproduction of quota. Because most of the underproduced quota is probably held in small holdings, rather than in large ones, holding it from production lowers the average quota even more than if quota were being held back in equal proportions by all farms. Much of the burley quota goes unproduced. Production was 14 percent less than the quota in 1989. Farms with under 2.1

Table 6--Burley tobacco quota-holding arrangements by burley acreage, 1989

Tenure	Burley acreage		
	Fewer than 2.1 acres	2.1 to 6 acres	Greater than 6 acres
	<i>Percent</i>		
Own all	58	26	26
Own, rent, and lease	0	20	27
Rent all	22	4	23
Own and lease	19	40	15
Own and rent	1	8	7
Lease and rent	0	2	2
Lease all	0	0	0

Source: 1989 FCRS.

acres of burley produced 26 percent less than the quota (table 4). In the two larger burley acreage categories, farms produced about 11 percent less than the quota allowed. In Tennessee, 36 percent of the effective quota was not grown (table 2).

Growers shifted their quota holding patterns from 1984 to 1989. Full ownership fell from 58 to 48 percent for all farms, and farms renting or leasing all quota increased from 13 to 19 percent. The proportion of farms which both owned and rented or leased quota also increased, from 29 to 32 percent. The greatest change occurred in Kentucky where total ownership of quota decreased from 57 to 36 percent. The proportion of farmers who rent all their quota increased in Kentucky from 12 percent in 1984 to 27 percent in 1989. In Tennessee, that proportion fell from 14 to 11 percent.

Table 7--Quota utilization, ownership, rental, and lease

Average per farm	Kentucky	Tennessee	All States
<i>Pounds</i>			
Effective quota:			
1989	10,926	4,515	7,645
1984	4,611	2,688	4,323
Quota owned:			
1989	4,794	2,523	3,631
1984	2,895	1,618	2,704
Quota rented for cash: ¹			
1989	1,095	565	824
1984	40	28	38
Quota rented for shares: ¹			
1989	3,117	206	1,627
1984	1,046	454	958
Quota leased: ²			
1989	1,957	1,226	1,583
1984	611	586	607
<i>Cents per pound</i>			
Rental rate: ³			
1989	na	na	na
1984	41	28	45
Lease rate:			
1989	38	18	29
1984	46	28	45

na = Not available.

¹ With land.

² Leased and transferred in without land.

³ Cash rent only, insufficient data for 1989.

Source: 1984 and 1989 FCRS.

Burley Farm Characteristics and Enterprises

This section looks at burley farms in their entirety and evaluates farm size, tenure, and enterprises.

Farm Cropland Acreage

Compared with many other farm types, burley farms are small-scale operations. They averaged 172 total acres of which 69 acres were cropland. The median farm size (the level at which half the farms are larger and half smaller) was 94 acres, and median cropland acreage was 16.5. Farms in Kentucky were larger than those in Tennessee (table 8). The percentage of cropland devoted to burley is higher in Tennessee than in Kentucky.

Kentucky farms were larger than those in Tennessee and had more tobacco. Farms in Kentucky averaged 213 acres in overall size; those in Tennessee averaged 134 acres. Farms growing fewer than 2.1 acres of tobacco averaged 111 total acres, while those between 2.1 and 6 acres averaged 250 acres, more than twice as large (fig. 1). Farms with more than 6 acres of burley averaged 379 acres. Median acreages were lower in all categories, especially for farms with 2.1 to 6 acres of burley.

Tenure on Burley Farms

Tenure on burley farms generally ranged from total ownership to ownership combined with rental. A few farms rented all the land they operated from other owners. Farmers in Tennessee had a greater tendency to own all their land than those in Kentucky (table 9). Fifty-three percent of farms growing burley owned their whole farm, and 39 percent combined rental and ownership. The balance rented all their land. Smaller farms, in terms of burley acreage, had a greater tendency to own all their land (table 10). Farms with more than 2.1 acres of burley were more likely to combine ownership with rental. Very few farms in the small and middle categories rented all their land, but almost 25 percent of the largest farms did.

Crop and Livestock Mix

Enterprise mix is an important characteristic which varies according to the resources available to the grower. The need to increase scales of operation, optimize efficient use of resources, and reduce risk often determines enterprise combinations. Burley is generally produced on small farms in combination with

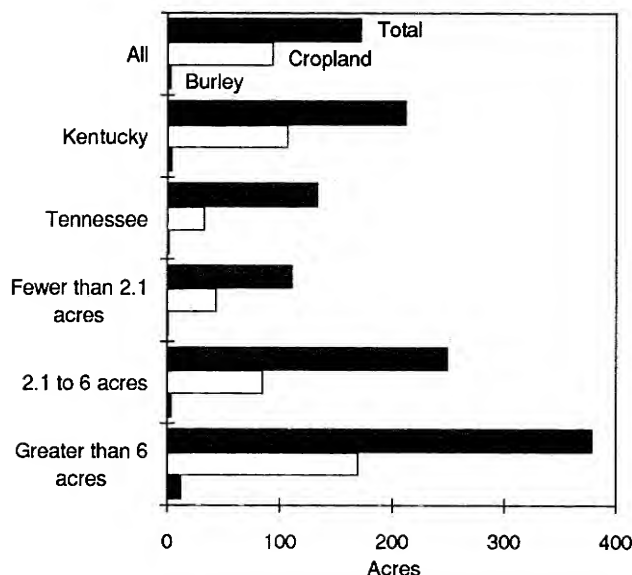
Table 8--Burley tobacco farm and cropland size, 1989

Item	Kentucky	Tennessee	All States
<i>Acres</i>			
Farm size:			
Average	213	134	172
Median	116	87	94
Cropland size:			
Average	107	33	69
Median	31	12	17

Source: 1989 FCRS.

Figure 1

Selected acreages on burley farms by State and burley acreage, 1989



Source: 1989 FCRS.

one or two other crop or livestock enterprises. However, the range of acreages and mix of enterprises found on burley farms is broad (fig. 2).

Among all farms, cattle were the most frequently found companion enterprise to burley (table 11). Corn was the most frequently grown crop on burley farms, followed by soybeans and small grains. Farms in Kentucky and farms in the largest burley size category were much more likely to have corn than others. More than 75 percent of the burley farms raised cattle, particularly in Tennessee. Cattle were more common on farms with 6 or fewer acres of burley than on those with greater than 6 acres (table 12). On the other hand, corn and small grains were more prevalent on

Table 9--Burley farm tenure arrangements for cropland by State

Tenure and year	Kentucky	Tennessee	All States
<i>Percent</i>			
Own all:			
1989	42	64	53
1984	69	56	67
Rent all:			
1989	16	1	8
1984	0	0	0
Own and rent:			
1989	42	35	39
1984	31	44	33

Source: 1984 and 1989 FCRS.

Table 10--Burley tobacco farm land tenure by burley acreage, 1989

Tenure	Burley acreage		
	Fewer than 2.1 acres	2.1 to 6 acres	Greater than 6 acres
<i>Percent of farms</i>			
Own all	63	34	27
Rent all	7	2	24
Own and rent	30	64	49

Source: 1989 FCRS.

Table 11--Proportion of burley farms with selected enterprises by State, 1989

Item	Kentucky	Tennessee	All States
<i>Percent of farms</i>			
Corn	44	11	27
Soybeans	30	2	16
Small grains	14	16	15
Cattle	68	90	79
Hogs	15	15	15

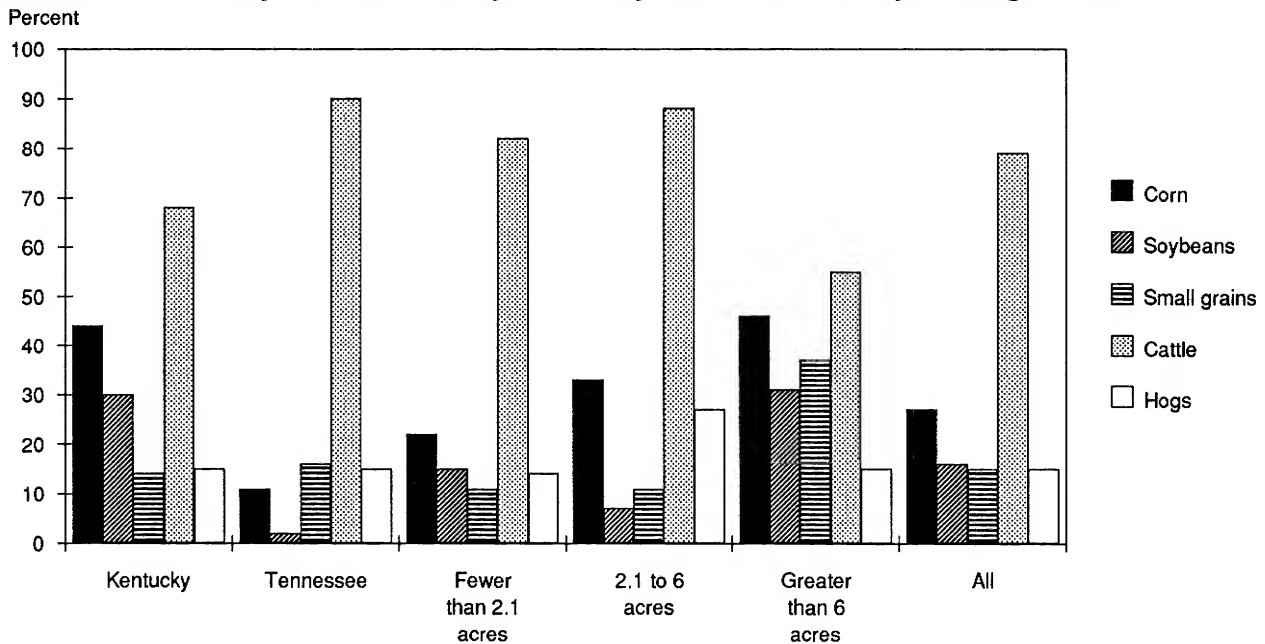
Source: 1989 FCRS.

larger operations. Cattle were generally pastured and raised for sale to finishing lots. Hogs were raised by 15 percent of the growers in each State. In Tennessee, 8 percent raised poultry, but very few did in Kentucky.

Although more farmers grew corn, those growing soybeans planted more acres than those growing corn (table 13). Soybean growers planted an average of 90 acres, while the corn average was only 60 acres. Acreage of complementary crops was not closely related to burley acreage (table 14).

Figure 2

Selected farm enterprises on burley farms by State and burley acreage, 1989



Source: 1989 FCRS.

Table 12--Proportion of burley farms with selected enterprises by burley acreage

Item	Burley acreage		
	Fewer than 2.1 acres	2.1 to 6 acres	Greater than 6 acres
<i>Percent</i>			
Corn:			
1989	22	33	46
1984	7	11	30
Soybeans:			
1989	15	7	31
1984	3	11	24
Small grains:			
1989	11	11	37
1984	2	1	10
Cattle:			
1989	82	88	55
1984	na	na	na
Hogs:			
1989	14	27	9
1984	na	na	na

na = Not available.

Source: 1984 and 1989 FCRS.

Table 13--Burley farms with selected enterprises: Acreage by State, 1989

Item	Kentucky	Tennessee	All States
<i>Acres</i>			
Burley	4.5	1.9	3.2
Corn	70.0	23.0	60.0
Soybeans	88.0	116.0	90.0
Small grains	47.0	22.0	34.0
Pasture	103.0	54.0	78.0
Hay	50.0	31.0	40.0

Source: 1989 FCRS.

Table 14--Burley farms with selected enterprises: Acreage by burley acreage, 1989

Item	Burley acreage		
	Fewer than 2.1 acres	2.1 to 6 acres	Greater than 6 acres
<i>Acres</i>			
Corn	60	39	78
Soybeans	80	214	83
Small grains	7	84	53
Hay	25	46	88
Pasture	54	77	200

Source: 1989 FCRS.

Grower Characteristics

The following section describes sources of income, education level, and age of burley farmers.

Income

Sixty-five percent of burley growers derived over half their gross farm income from tobacco. But, the farm is not the major source of income for most burley growers. Only 14 percent of their net total family income came from onfarm sources. Wages and salaries, the most common sources of off-farm income, are earned by 68 percent of all grower families. Sixty-one percent in Tennessee had over \$15,000 in annual wage or salary income. In Kentucky, 43 percent were at that level or higher. Growers in Tennessee depend more on nonfarm income than those in Kentucky. In many cases, agriculture probably provides all the income for one spouse while the other works off the farm.³

Education

Grower education varies with age. Overall, 46 percent of burley growers finished high school. About half those in Kentucky finished high school compared with 41 percent in Tennessee. Fourteen percent of Tennessee burley growers graduated from college compared with 5 percent for those from Kentucky. However, those from Kentucky were more likely to take college courses.

Age

Burley growers older than 55 had considerably less burley acreage, on average, than did younger farmers (tables 15 and 16). The highest average burley acreage was found in the 35- to 55-year-old age group. Twenty-six percent of those with fewer than 2.1 acres of burley were over age 65, accounting for over 81 percent of that age category.

Burley growers in Tennessee tend to be older than those in Kentucky. Twenty-two percent of growers in Tennessee and 44 percent in Kentucky were less than 45 years old.

³ For further discussion about financial characteristics of burley tobacco farms, see Tom Capehart, "Financial Characteristics of Burley Tobacco Farms," *Tobacco Situation and Outlook Yearbook*, TS-213, U.S. Dept. Agr., Econ. Res. Serv., Dec. 1990, pp. 48-55.

Table 15--Burley tobacco farms: Age of operator by State, 1989

Operator age	Kentucky	Tennessee	All States
<i>Percent</i>			
Less than 35	31	7	19
35 to 54	46	43	45
55 to 64	18	23	20
65 or more	5	27	16

Source: 1989 FCRS.

Table 16--Burley tobacco farms: Age of operator by burley acreage, 1989

Operator age	Burley acreage		
	Fewer than 2.1 acres	2.1 to 6 acres	Greater than 6 acres
<i>Percent</i>			
Less than 35	22	2	24
35 to 54	35	67	63
55 to 64	22	24	10
65 or more	21	7	3

Source: 1989 FCRS.

As older farmers leave active farming, these small holdings are often consolidated with others in the same county. Or, some may simply be left unused as other farmers find it uneconomical to acquire them. In Tennessee, where the entire effective quota is often not produced, the cost of transferring may outweigh the advantage to producing the tobacco for many farmers.

As older farmers leave active farming, these small holdings are often consolidated with others in the same county. Or, some may simply be left unused as other farmers find it uneconomical to acquire them. In Tennessee, where the entire effective quota is often not produced, the cost of transferring may outweigh the advantage to producing the tobacco for many farmers.

Conclusions

Burley production is concentrated in Kentucky and Tennessee, which account for 86 percent of U.S. production. Burley is produced on small farms in small plots. Average farm size was 172 acres with 69 acres of arable land. The 3.2 acres of burley per farm produced an average of 6,537 pounds. Half the farms growing burley planted fewer than 1.5 acres. In 1984,

burley farms averaged 2.3 acres of burley per farm, producing 4,260 pounds.

Burley production is limited by a national quota which determines individual farm quotas. Quotas may be leased and transferred or rented between farms under restrictions which vary by State. About half of all burley growers owned all their quota, while 22 percent both owned and rented, and 19 percent rented or leased all the quota they produced. The remaining 10 percent used other combinations of arrangements. Underproduction of quota is a serious problem for burley production. In 1989, on average, burley farmers did not plant 22 percent of their effective quota.

Burley receipts averaged \$10,082 per farm. They were much lower in Tennessee, at \$4,832, than in Kentucky, where they were \$15,588. Burley contributed 74 percent to farm sales in the survey area.

Burley was most often grown on farms raising cattle or corn, although many farms raised soybeans. Smaller farms and farms in Tennessee tended to raise livestock as a complementary enterprise, while larger farms were more likely to grow crops.

Farm income provided 14 percent of total income, on average, for burley-growing households. Wages and salaries were the most important source of income, with 68 percent of all farm families having this type of income. Burley farming is predominantly a part-time activity, although in many cases, one spouse might devote all his or her efforts to farming, while the other works off the farm. Forty-six percent of burley growers finished high school. Burley farmers were evenly distributed with regard to age, but older farmers had smaller operations.

Appendix A: The Current Burley Tobacco Program

The quantity of burley tobacco that is marketed has been controlled by the Secretary of Agriculture under statutory authority since the 1930's. The current burley tobacco program sets both the maximum quantity and minimum price of burley to maintain grower income, ensure adequate supplies to meet domestic and foreign demand, and maintain acceptable reserves.

Quota

Poundage quotas replaced acreage allotments for burley tobacco in 1971. The national marketing quota

is set by the Secretary of Agriculture and must be announced each year by February 1. Through 1993, the national quota cannot be reduced by more than 10 percent of the previous year's level.

The national marketing quota is calculated by adding the purchase intentions of domestic cigarette manufacturers to the average of the previous 3 years' unmanufactured exports; that sum is then adjusted to maintain reserve stocks at 15 percent of the quota or a minimum of 50 million pounds. Finally, the Secretary of Agriculture can make a discretionary adjustment of not more than plus or minus 3 percent.

Lease and Transfer of Quota

Burley farm quotas are based on their share of the national marketing quota. Farmers can market up to 103 percent of their effective quota in a given year without penalty. Transfer of leased quota from the farm to which it is assigned is permitted within counties in all burley-producing areas. In Tennessee only, transfer of leased quota is permitted across county lines, beginning in 1991.

The maximum quantity that may be leased by a farm is 30,000 pounds. Farms that have sold quota in the previous 3 crop years cannot lease quota from other farms.

Sale of Quota

Beginning in 1991, quota may be sold from one farm to another, within a county, subject to the following:

- (1) The buyer must be an active burley producer, or intend to become one, as defined by statute.
- (2) The quantity of quota purchased may not exceed the greater of 30 percent of the buyer's existing quota or 20,000 pounds.
- (3) The seller must have owned the quota for at least 3 years. Sales must be registered with the county committee by July 1 of the crop year to be counted in that year.

The marketing quota of a farm subsequent to a sale may not be more than 50 percent of its burley yield multiplied by its cropland acreage.

Quota which is not produced during 2 out of the 3 previous crop years reverts to the Secretary of Agriculture for reassignment.

When a farm is divided through reconstituting, the burley tobacco poundage quota shall not be fewer than 1,000 pounds (except when the reconstituting of the farm is among immediate family members or pursuant to probate proceedings).

Price Support

The price support (loan rate) for burley tobacco is calculated by adjusting the level for the previous year by a 5-year moving average of burley prices (2/3 weight) and the cost of production index for burley (1/3 weight). General variable costs are included, but costs of land, quota, risk, overhead, management, marketing contributions or assessments, and other costs not directly related to tobacco production are excluded. The Secretary of Agriculture has a discretionary adjustment of 65 to 100 percent of the calculated change in the support price.

A support price is established for each grade of tobacco. The loan rate for each grade is based on market price, burley association loan holdings, and the share of a particular grade received under loan. The weighted average of all grade loan weights must equal the overall support price.

If the buyer's bid for a lot of tobacco does not exceed the loan rate, the tobacco is purchased by the burley pool (association), and the seller receives the loan rate for the tobacco. The association receives and processes the tobacco which is eventually sold through normal channels.

Appendix B:

U.S. Burley Production in a World Context

The United States produced 35 percent of the world's burley crop in 1990, about 3.5 times as much as the next largest producer, China. China's production was followed by Malawi, Brazil, Italy, Japan, Thailand, South Korea, Mexico, and Argentina (app. table 1). Total world production in 1990 was 1,689.9 million pounds. Over the past 10 years, world burley production has fluctuated widely, ranging from a low of 1,265 million pounds in 1980 to a high of 1,704 million pounds in 1984. Total production may reach 1,850 million pounds in 1991. The U.S. share of burley production has slipped fairly steadily from 51 percent in

Appendix table 1--World burley production, 1989

Country	Production	Share of world production
	1,000 pounds	Percent
United States	596.3	35
China	169.8	10
Malawi	141.1	8
Brazil	125.7	7
Italy	121.3	7
Japan	56.8	3
Thailand	45.2	3
South Korea	44.5	3
Mexico	39.7	2
Argentina	38.5	2
Philippines	38.1	2
Spain	34.4	2
Guatemala	19.5	1
Other	219.2	13
World	1,689.9	100

Source: *World Tobacco Situation*, U.S. Dept. Agr., For. Agr. Serv., various issues.

1981. The comparatively high price of U.S. burley, and a few years of weather- and disease-related production decreases, encouraged increased production and greater emphasis on quality in nations such as Malawi and Brazil. Their share of world production has subsequently increased.

The United States is the second largest exporter of burley leaf, accounting for 21 percent of the market in 1990. Malawi exported 22 percent of world exports and Italy, the third largest exporter, held about 12 percent of the market (app. table 2). Increased exports by other producers, combined with underproduction and the high price of U.S. burley, eroded the U.S. share of the world market in the 1970's and 1980's. U.S. exports represented 19 percent of U.S. production in 1990. During 1955-59, the United States accounted for 60 percent of world burley exports, shipping an annual average of 28 million pounds of burley leaf. But in 1990, its 21-percent share of world burley exports represented 111 million pounds. During 1955-90, the volume of world burley trade increased from 47 million pounds to 520 million pounds.

The United States is also a leading importer of burley tobacco. During the 12 months beginning July 1989, the United States imported 69.5 million pounds, primarily from Mexico, Guatemala, Honduras, and Brazil. Other major importers of burley leaf are Japan, Germany, and the Netherlands.

Appendix table 2--World burley exports, 1989

Country	Exports	Share of world exports
	<i>1,000 pounds</i>	<i>Percent</i>
Malawi	117.0	22
United States	110.8	21
Other	93.3	18
Italy	61.9	12
Brazil	35.3	7
Greece	33.1	6
Thailand	25.7	5
Mexico	18.9	4
Argentina	11.6	2
South Korea	10.3	2
Zimbabwe	7.6	1
World	525.4	100

Source: *World Tobacco Situation*, U.S. Dept. Agr., For. Agr. Serv., various issues.

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For Additional Information...

Contact Tom Capehart (202-219-0890), Commodity Economics Division, Economic Research Service, U.S. Department of Agriculture, Room 1234, 1301 New York Avenue NW, Washington, DC 20005-4788.

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